

THERMAL DEPOSITION SURFACE TREATMENT METHOD, SYTEM AND PRODUCT

ABSTRACT

A process for treating a workpiece is described herein. In one embodiment, the process comprises the following steps:

- (a) altering the temperature of a workpiece surface wherein at least one condition selected from the group of: thermal treatment rate, relative motion between the surface and said thermal treatment means, coolant flow rate onto said surface, heating flow rate onto said surface and the relative speed between the thermal treatment means and the surface is controllable;
- (b) dividing the surface of the workpiece into a plurality of zones;
- (c) simultaneously measuring temperatures at a plurality of locations in a plurality of zones over the surface of the workpiece wherein at least one temperature is measured in each zone;
- (d) determining an average temperature in each of said plurality of zones using said temperatures measured in step (c);
- (e) comparing each of the average temperatures to a preselected minimum temperature and a preselected maximum temperature for the zone; and
- (f) automatically adjusting at least one of the controllable conditions if said average temperature is not between the preselected minimum temperature and the preselected maximum temperature for at least one of the zones.

Figure 9